



Configuring Multicast ACL for RPs for PIM-SM

This chapter describes how to configure the Protocol Independent Multicast (PIM) and PIM6 features on Cisco NX-OS devices in your IPv4 networks.

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Introduction

This chapter describes how to configure multicast ACL for RP feature in IPv4 networks. This determines RP is used to create state and build shared trees when an incoming (*, G) Join is processed. This allows for creating (*,G) trees determined by the policy for a given multicast group.

Guidelines and Limitations for PIM Allow RP

- A route-map policy for RP should only contain group prefixes to use with the match ip multicast command.

Information about PIM Allow RP

Rendezvous Points

A rendezvous point (RP) is a role that a device performs when operating in Protocol Independent Multicast (PIM) Sparse Mode (SM). An RP is required only in networks running PIM SM. In the PIM-SM model, only network segments with active receivers that have explicitly requested multicast data will be forwarded the traffic. This method of delivering multicast data contrasts with PIM Dense Mode (PIM DM). In PIM DM, multicast traffic is initially flooded to all segments of the network. Routers that have no downstream neighbors or directly connected receivers prune back the unwanted traffic. An RP acts as the meeting place for sources and receivers of multicast data. In a PIM-SM network, sources must send their traffic to the RP. This traffic is then forwarded to receivers down a shared distribution tree.

By default, when the first hop device of the receiver learns about the source, it will send a Join message directly to the source, creating a source-based distribution tree from the source to the receiver. This source tree does

not include the RP unless the RP is located within the shortest path between the source and receiver. In most cases, the placement of the RP in the network is not a complex decision.

By default, the RP is needed only to start new sessions with sources and receivers. Consequently, the RP experiences little overhead from traffic flow or processing. In PIM version 2, the RP performs less processing than in PIM version 1 because sources must only periodically register with the RP to create state.

Configuring RPs for PIM-SM

Before you begin

All access lists should be configured prior to beginning the configuration task. For information about how to configure an access list, see the “Configuring IP ACLs” chapter in the [Cisco Nexus 3550 Series NX-OS Security Configuration Guide](#).

Procedure

	Command or Action	Purpose
Step 1	configure terminal Example: switch# configure terminal switch(config)#	Enters global configuration mode.
Step 2	interface <i>interface</i> Example: switch(config)# interface gigabitethernet 1/1 switch(config-if)#	Selects an interface that is connected to hosts on which PIM can be enabled. interface type number.
Step 3	ip pim sparse-mode Example: switch(config-if)# ip pim sparse-mode	Enable PIM. You must use sparse mode.
Step 4	no shut Example: switch(config-if)# no shut	Enable an interface.
Step 5	Exit Example: switch(config-if)# exit	Return to global configuration mode. Repeat Steps 3 through 5 on every interface that uses IP multicast.
Step 6	ip pim rp-address <i>rp-address</i> [group-list <i>ip-prefix</i> route-map <i>policy-name</i>] Example: switch(config)# ip pim rp-address 30.2.2.2 group-list 224.0.0.0/4	Configures a PIM static RP address for a multicast group range. You can specify a route-map policy name that lists the group prefixes to use with the match ip multicast command. This command can also be used in VRF mode.

	Command or Action	Purpose
Step 7	end Example: Switch(config)# end	Exit configuration mode.
Step 8	(Optional) show ip pim rp [vrf]rp-address] Example: switch# show ip pim rp	Display the RPs known in the network and shows how the router learned about each RP.
Step 9	(Optional) show ip mroute Example: switch# show ip mroute	Display the contents of the IP mroute table.

